PATENT COOPERATION TREATY

IN THE INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

Applicant – GUARDIT TECHNOLOGIES, LLC

International Appln. No. PCT/US04/021371

International Filing Date -- 02 July 2004

Title – PORTABLE MOTION DETECTOR AND ALARM SYSTEM AND METHOD

AMENDMENT AND REPLY TO WRITTEN OPINION UNDER PCT ARTICLE 34

International Preliminary Examining Authority
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Gentlemen:

This is in response to the Written Opinion of the International Preliminary Examining Authority dated 7 June 2005. In the Written Opinion, claims 1-56 were indicated as satisfying all patentability requirements pertaining to novelty, inventive step and industrial applicability. Claim 57 was said to lack novelty under PCT Article 33(2) as being anticipated by Lemelson (US 4337462). Claims 6-7 were objected to on the ground that "partial vacuum environment" lacks antecedent basis insofar as independent claim 1 uses the term "vacuum environment" without the word partial. Claims 55-57 were objected to because claim 55 purports to depend from itself.

Please substitute the attached new pages 62 and 70-71 of the claims. Substitute page 62 contains an amendment to claim 6 whereby claim 6 now directly depends from claim 1 and recites "said vacuum environment" instead of "said partial vacuum environment." Substitute page 70 contains an amendment to claim 55 whereby claim 55 now depends from claim 54. Substitute pages 70-71 collectively contain an amendment to claim 57 to clarify that the recited motion sensor senses both vibratory and long-wave motion, and the control circuitry receives corresponding respective vibratory and long-wave motion signals from the motion sensor and distinguishes between a vibratory motion event and a long-wave motion event. This language addresses the point made in the Written Opinion to the effect that claim

57 could be interpreted to read on plural discrete motion sensors as disclosed in Lemelson to sense vibration and long wave motion. As amended, the system of claim 57 calls for a single motion sensor that senses both vibration and long-wave motion, presents corresponding respective vibratory and long-wave motion signals to the control circuitry, and the control circuitry acts on the signals by distinguishing between the two types of motion. This represents an inventive step insofar as Lemelson teaches that separate sensors are required for each type of motion being sensed.

Based on the foregoing, an indication of patentability of all pending claims is requested.

Respectfully submitted,

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CLAIMS

What is claimed is:

1. A portable security alarm system for detecting the movement of an object and providing information relative to said movement, said system comprising a movement detecting and signal transmitting means for detecting movement of an object and wirelessly transmitting a predetermined signal indicating movement of said object, and a receiver means for receiving said predetermined signal and providing a security response, said movement detecting and signal transmitting means comprising an inertial sensor disposed within a vacuum environment.

2. The system of claim 1 wherein said movement detecting and signal transmitting means comprises a piezo film accelerometer sensor.

3. A portable security alarm system for detecting the movement of an object and providing information relative to said movement, said system comprising a movement detecting and signal transmitting means for detecting movement an object and wirelessly transmitting a predetermined signal indicating movement of said object, and a receiver means for receiving said predetermined signal and providing a security response, said movement detecting and signal transmitting means comprising an inertial accelerometer sensor with a piezoelectric audio transducer construction that includes a piezoelectric element mounted to a diaphragm, said sensor further including a mass attached to said diaphragm.

4. The system of claim 3 wherein said mass is one of a quantity of adhesive, a quantity of solder, or a solid object bonded to said diaphragm.

5. The system of claim 1 wherein said movement detecting and signal transmitting means comprises an accelerometer sensor with a piezoelectric audio transducer construction that includes a piezoelectric element mounted to a diaphragm.

6. The system of claim 1 wherein said vacuum environment is provided by an airtight compartment.

50. The sensor of claim 49 wherein said mass comprises a primary mass element that is attached to one of said piezoelectric element and said diaphragm, and a secondary mass element on said primary mass element.

51. The sensor of claim 50 wherein said primary mass element is larger than said secondary mass element.

52. The sensor of claim 50 wherein one or both of said primary mass and said secondary mass are generally spherical in shape.

53. The sensor of claim 50 wherein said secondary mass element is on said primary mass element at a location that is offset from a line extending through said piezoelectric element and a center of gravity of said primary mass element.

54. An inertial sensor comprising a piezoelectric element mounted to a flexible diaphragm, and a mass on one of said piezoelectric element and said diaphragm, wherein said sensor comprises a piezoelectric audio transducer having said mass secured thereto.

55. The sensor of claim 54 wherein said sensor comprises a support ring housing to which said diaphragm is mounted and which facilitates free-flexing of said diaphragm.

56. The sensor of claim 55 in combination with a device that is activated or deactivated by said sensor.

57. A portable security alarm system for detecting the movement of an object and providing information relative to said movement, said system comprising a movement detecting and signal transmitting means for detecting movement of an object and wirelessly transmitting a predetermined signal indicating movement of said object, and a receiver means for receiving said predetermined signal and providing a security response, said movement detecting and signal transmitting means comprising a motion sensor that senses both vibratory and long-wave motion and control circuitry for receiving corresponding respective

vibratory and long-wave motion signals from said motion sensor and distinguishing between a vibratory motion event and a long-wave motion event.